

MORMUGAO PORT AUTHORITY
ENGINEERING MECHANICAL DEPARTMENT

NOTICE INVITING BUDGETORY OFFERS

Name of Work	Replacement of 1 no. 15 passenger lift at MPA Hospital, including 5 years Comprehensive Annual Maintenance Contract after completion of 1 year free guarantee period, and disposal of old elevator through MM division on as is where is basis.
Date of submission of budgetary quotation	on or before 26.02.2024 at 1530 Hrs.
Address for communication:	“Executive Engineer (E-HL)” Engineering Mechanical Dept., Mormugao Port Authority, Headland Sada, Mormugao, Goa – 403802.
Contact Details	Phone :0832-2594241/71/15 Email : xene.mgpt@gmail.com
Website	www.mptgoa.gov.in

EXECUTIVE ENGINEER (E-HL)
MORMUGAO PORT AUTHORITY

TECHNICAL SPECIFICATION

2.1 GENERAL

Mormugao Port Authority proposes replacement of 1 No. Stretcher Elevator at MPA Hospital, Headland including 5 years Comprehensive Annual Maintenance Contract after completion of 1 year free guarantee period.

2.2 SCOPE OF WORK

The scope of work broadly involves:

- i) Dismantling of the existing 1 no passenger Elevator of G+4 located at Hospital building by duly adhering to environmental norms and the total scrap generated from dismantled lift including existing car/counterweight rails, motor, drive, frames, panels , all mechanical items etc. to be transported to MM yard at Baina located three kilometers from Administrative Bldg.
- ii) Design, supply, installation, testing & commissioning of 1 No. 15 passenger Stretcher Elevator for hallway dimension of 1700 mm (W) x 3000 mm(D) with VVVF drive along with gearless motor, Machine Room including control panel and accessories, as per Technical specification detailed at Detailed Technical Specification at 2.3. The door opening should be from center, to allow maximum space for stretcher entry.
- iii) Provision of Automatic Rescue Device (ARD), for rescue operation in the event of Power failure. ARD shall automatically take the Elevator car to the nearest floor and open the door to facilitate safe rescue of the stranded passengers from the Elevator. **The Batteries provided for the ARD should be maintenance free and of appropriate rating to perform 5 to 6 rescue operations, before getting completely discharged.**
- iv) LED light fittings shall be provided in the hoist way as per safety norms.
- v) Carrying out all necessary civil works for making the elevator hoist way provision ready to install the Elevator and to carry out any other work required to complete

the installations of the proposed Elevator like providing structural support for guide rails, foundation for motors and panels, providing ladder to facilitate Elevator maintenance in Pit etc. and including proper cladding, masonry etc. for proper aesthetics, also arrangement of logistics, tools and tackles, scaffolding for erection of the Elevator etc.

- vi) Providing wiring as required for Elevator shaft lighting, power supply for elevator machine from the supply point provided by MPA and provision of switch, socket, Bulbs, MCBs with enclosures as required.
- vii) The Contractor shall carry out white washing / painting of the Machine Room and entire portion of Hoist Way to the satisfaction of the EIC.
- viii) The Contractor shall take necessary insurance for One year for the newly installed elevator from any one of the Nationalized Insurance Company. The document of which are to be furnished to the Port.
- ix) Comprehensive Annual Maintenance and Servicing Contract for five years after expiry of one year of free guarantee period, which would include free monthly periodical service visits during the tenure. If any break down occurs, the same has to be attended immediately within 24hrs during the CAMC period.
- x) All the system/software upgrades for the elevator should be carried out by the contractor during the currency of the CAMC.
- xi) The Contractor shall provide 4 Pole, 300 mA, 63 Amps. rated RCCB with enclosure at their own cost for Elevator for main control.
- xii) The subject work shall be carried out as per relevant IS standard and also execute the electrical work as per Indian Electricity Rule (IER).

2.3 DETAILED TECHNICAL SPECIFICATION:

2.3.1 The elevator shall be as per specifications given below:

Item no	Description	Specification
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1	Elevator type	With Machine Room 15 passenger elevator
2	Quantity	1
3	Machine	PM Synchronous Gearless Motor (Located in shaft on top of guide rails/in the existing machine room)
4	Capacity	1020 kg, to carry stretcher
5	Speed	Rated 0.55 – 1.0 m/s , Silent & Jerk free
6	Voltage - Power Mains	3ph, 415Volts, 50Hz
7	Voltage - light Mains	1 ph, 230Volts, 50 Hz
8	Control Panel	Electronic Motor protection Relay to be provided including overload, short circuit, Phase reversal, Phase unbalance, Rotor stalling, Leakage current, low voltage, over voltage, Frequency mismatch, Overheating etc to protect the motor and fault code should be
9	Number of stops	G + 3 (All openings on same side)
10	No. of entrance	One location (front)
11	Total Elevator Travel Height (Rise)	Approx. 12 m
12	Existing Hoist way dimensions	1700 mm (W)x 3000 mm(D)
13	Existing door opening(cutout)	900 mm (W) x 2000 mm (H)
14	Pit Depth	1350mm
15	Car & Hoistway Door Type	Centre Opening doors
17	Location of machine room	At the bottom of the hallway
18	Traction media	Flat Coated Steel Belt/ Stainless steel Wire ropes
19	Control system	PLC based simplex Selective and collective control.
20	Drive	VVVF Drive
21	Flooring	Granite floor finishing and floor matting to be provided as per approved colour
22	Levelling accuracy	(+/- 1 mm)
23	Electric light	LED
24	Pit ladder	To be provided by the Elevator agency
25	Controls and indications inside the car	Dot Matrix (LED) Scrolling Car position indicator display panels. Display Board should

		display the direction & floor numbers in the car in a visible manner
		Stainless steel Buttons with LED illumination with Braille markings for car call registration
		On/Off switch for Fan and light to be provided
		Emergency stop button to be provided.
		Emergency Alarm Button and Emergency light to be provided along with maintenance free battery to provide with backup upto 3 hrs.
		Non-stop Button has to be provided to by-pass landing calls in the Attendant mode condition.
		Door open and Door close button shall be provided
		Fire alarm button to be provided
		On/Off key have to be provided.
		Auto/Attendant key have to be provided for the operator's use.
		Wired communication module complete with indication sign displaying instructions regarding the use of the rescue service.
26	Control on landings	Dot matrix landing operating panels is to be provided at all floors to display the car direction and floor numbers along with Flush type/ surface type Buttons for registering calls along with visual indicators.
27	Maintenance controls	On top of cabin and in machine room
28	Car Finish	Stainless Steel #4 (Hairline)
29	False ceiling finish	Stainless Steel #4 Mirror , with LED lamps, high speed crossflow Fan
30	Hand rail	Steel hand rail on rear car panels
31	Car Door Finish	Stainless Steel #4 (Hairline)
32	Landing Door Finish	Stainless Steel #4 (Hairline)
33	Announcement system	To be provided with Music and floor announcement in English and also with the reprogramming facility.
34	Overload Warning	Overload warning device with display is to be provided in a visible manner. Elevator should not be able to proceed with overload indication on (i.e. Door should be open condition on that floor itself during over load)

35	Fire rated doors	Fire rating-60 mins. The Fireman's switch to be provided at Ground floor
36	Standard Features	Anti-nuisance Car Call Protection, Overload Device, Nudging, Emergency Firemen's Service, Emergency Car Light Unit, Infrared Curtain Door Protection, Door Time Protection, Emergency Alarm Button, Extra Door Time of Lobby & Parking, Door Open/Close Button, Manual Rescue Operation, Belt Inspection Drive, Auto Fan Cut Off, Advance Door Opening
37	Car Safety Provision	<p>Emergency key opening at all Landing doors & brake mechanism to be provided for manual raising or lowering of the Elevator in case of emergency</p> <p>Terminal Limits have to be provided</p> <p>Over speed governor with barricade have to be provided</p> <p>Auto Rescue Device have to be provided with Announcement system to enable Automatic evacuation to nearest floor</p> <p>Buffers have to be provided</p> <p>Re-leveling function to be provided.</p> <p>Earthquake sensor to be provided</p> <p>Door sensors (Button) /Infra Red Sensor/ Full Screen Sensor/prevaling Sensor to instantly stop and closing of car and landing door on sensing an obstruction and to retract.</p> <p>Digital Display Board should display code for Maintenance on the landing face plate at every floor whenever required during maintenance period.</p> <p>Door closing force limiter</p> <p>Overload device preventing start of journey when cabin load exceeds rated load</p> <p>Auto reset after power has resumed</p> <p>Motor overload and phase failure protection device</p> <p>Suitable safety provision for bringing the car to rest in the event of rope breaking or loosening shall be provided</p>

38	Fire alarm	Fire alarm switch have to be provided at Gr. floor.
39	Installation and Equipment Warranty	12 Months
40	CAMC	5 Years

2.3.2 CAR OPERATING PANEL

The car operating panel shall be flush mounted and shall have:-

- a) A bank of Vandal proof Stainless steel push button to correspond to the various landing levels being served.
- b) An emergency stop switch for stopping the car independently of the regular operating service.
- c) An emergency alarm button and emergency light to be provided along with maintenance free battery.
- d) A switch also shall be provided inside the car for the car fan apart from its automatic function.
- e) The door open and close buttons shall be provided in the panel.
- f) A non-stop button should be provided for bypassing landing calls, which shall remain registered till they are answered.
- g) Hall Call shall be displayed inside the car.
- h) The Auto/Attendant key shall be provided to switch between the modes.
- i) On/Off key shall be provided.

2.3.3 CAR POSITION INDICATORS

A Dot Matrix (LED) Scrolling Car position indicator display panels shall be provided with Stainless steel face plate which shall indicate the landing at which the car is stopping or passing including Up and Down scrolling indicators for indicating the direction of the car.

2.3.4 CALL REGISTERED LIGHTS

Each car and hall button shall be provided with registered lights which shall illuminate when corresponding button in the face plate is momentarily pressed and remain illuminated until call is answered.

2.3.5 HALL POSITION INDICATOR

A Dot Matrix (LED) Scrolling hall position indicator shall be provided on all landings indicating the position and direction of the car in the hoist way at all times.

2.3.6 CAR SAFETY PROVISION:

- a. The emergency key opening should be provided at all landing floors to facilitate the forced opening of the elevator door in case of an emergency. A brake release device shall be provided for manual movement of the car in the shaft for emergency rescue operation.
- b. The Elevator shall be provided with the automatic stopping limits arrangement to take care of the over travel on either sides. The terminal limit switches shall be provided in the hoist way to stop the car and prevent its travel beyond the normal operational limits
- c. Over speed governor with barricade to stop the elevator in case the elevator runs beyond the rated speed shall be provided.
- d. In the event of Power failure during normal operations Automatic Rescue Device (ARD) shall automatically move the stalled Elevator to the nearest landing to facilitate the rescue of the passengers from the Elevator. The Batteries provided for the ARD should be of appropriate rating to perform 5-6 rescue operations, before getting completely discharged.
- e. Spring Buffer to be provided in the pit for safety.
- f. Releveling function shall be provided to correct stopping errors.
- g. Door sensors (Button) /Infra Red Sensor/ Full Screen Sensor/prevailing Sensor to instantly stop and closing of car and landing door on sensing an obstruction and to retract.

2.4 WORKS

A. CIVIL WORKS:

- i) The contractor shall dismantle the existing elevator.

- ii) The contractor is required to take all measurements on site if necessary and shall be responsible for all minor civil works arising out of installation such as granite cladding, minor modification civil works inside Pit and related to SITC of the elevator for ensuring accuracy and consistency of installation with existing site measurements and features.
- iii) The material at all stages of transportation, handling and storage shall be kept clean and free from damage and breaking, bending and distortion. Site work shall be restricted to fixings and other operations that cannot be undertaken in the workshop. Bars, sharp edges and angles, coarse file marks, excess weld metal and similar imperfections from all classes of work shall be removed. The material shall not be allowed to rust or otherwise deteriorate between supply and installation. Fixing and installation shall be provided a means that prevents corrosion due to contact with incompatible metals and other materials. Hot dipped galvanizing work to be in accordance with relevant IS.
- iv) While making holes, it shall be done in such a manner that it does not deform or damage the material.
- v) The structure shall be installed in place, taking care not to cause any damage to the existing structure. Any damaged caused to the infrastructure or its surrounding shall made good by the contractor.
- vi) The tender price shall include all the civil works required to complete the full installation of the Elevator. These shall include:
 - a) Removal of all the existing material in the shaft at all levels as necessary.
 - b) The modification of the available site for making ready the Elevator pit and all other required civil works.
 - c) Grouting for the guides, rails and any structural supports of the elevator structure including cutting and making good of holes in walls etc.
 - d) Providing and fixing of frames for landing doors including slots for door locks as may be required.
 - e) Providing slots for landing operating panel.
 - f) Providing of Pit ladder for maintenance purpose.

- g) The granite work cladding, embedding etc. for proper aesthetics if required shall be carried out by contractor.
- h) Making good of any damages related to the structural works including plastering and painting to match the existing surface.
- i) The Contractor shall provide all the frame work necessary for Elevator car and counter weight.
- j) The spring buffers under the car and the counter weight shall also provided by the Contractor. The doors and guides shall be designed to ensure effort free operation.

B. ELECTRICAL WORKS:

- i) Necessary power and control wiring shall be done as per IE Rules and relevant Indian standards.
- ii) The main power will be provided on the Elevator machine room (above 4th floor) of the Building from where the contractor will have to make their own arrangement such as electrical cables, switchboard ,MCCB etc. carry out the required Power and control circuit wiring separately including of installation of required MCCB/RCCB with enclosure.
- iii) The main power will be provided in the machine room of the Building from where the contractor will have to carry out the required Power and control circuit wiring separately including of installation of required MCCB/RCCB.
- iv) Double copper earthing shall be carried out as per requirements of Indian Electricity Rules and as per relevant IS standard.
- v) The Elevator shaft shall be provided with LED light fittings for proper illumination to carry out maintenance work. 5 Amps sockets may be provided inside the Elevator shaft, if required, to facilitate maintenance.
- vi) The trailing cable of size as per the design shall contain ten spare cores apart from that required for actual operation.

2.5 ERECTION & COMMISSIONING

The Contractor shall commence the erection of equipment immediately after receipt of the equipment and complete the work to the satisfaction of the Chief Mechanical Engineer

or his representative. Necessary scaffolding and safety measures for entire erection shall be done by the contractor.

2.6 TESTS

Necessary tests shall be carried out as per relevant IS standards to the satisfaction of the Chief Mechanical Engineer or his representative. The relevant test certificates as per IS for the materials supplied shall be submitted to the Chief Mechanical Engineer or his representative before handing over of the Elevator.

2.7 MANUALS, DRAWINGS AND GUARANTEE

The Contractor shall supply 3 sets of detailed mechanical and electrical drawings with operation and maintenance manuals along with the equipments in hard and soft copy. The Elevator shall be guaranteed for 12 months from the date of acceptance and free maintenance shall be done during the guarantee period.

2.8 TRAINING

The Contractor shall arrange to train minimum 3 personnel of the Port to enable them to acquaint themselves with normal operations, trouble shooting and emergency operations of the Elevator.

3.0 COMPREHENSIVE ANNUAL MAINTENANCE CONTRACT (CAMC)

The Contractor, whose offer for Design, Supply, Installation, and Testing & Commissioning of Elevator is accepted, shall maintain the Elevators comprehensively for a period of 5 years from the date of successful completion of free guarantee period of one year.

Maintenance work, including emergency breakdown repair service, shall be performed by trained service person of the Elevator contractor during regular working hours. This service shall not be subcontracted. The Contractor shall include in his price for a periodic preventive maintenance during the guarantee and maintenance period.

3.1 The scope of CMC of Elevator shall include:

- i. Contractor shall carry out monthly periodic visits during which he shall regularly examine, lubricate and adjust recalibrate the equipments as necessary and generally carry out planned maintenance in a systematic and controlled manner using developed techniques and expertise, the checklist for which are

to be submitted to EIC.

- ii. Repairs or replacement of parts:- Contractor shall repair or replace any parts of the Elevator which in his opinion are defective at his own cost for ensuring smooth service. Only genuine parts, as used in the manufacturing and installation of the original equipment shall be provided.
- iii. Examine periodically all safety devices and governors and make all customary safety checks.
- iv. Emergency minor adjustment call service: - Contractor shall provide emergency minor adjustment CALL-BACK service at no extra charges under the CMC. This CALL-BACK service shall be extended round the clock on all working days as well as on holiday and is to be attended within 24 hours. The contractor shall have a local office in Goa to attend breakdown calls during emergency. The service and breakdown reports to be submitted on the day of service/breakdown or the next day to the CME's representative.
- v. All the replaced parts shall conform to relevant IS standards or applicable Rules and regulations made thereunder.
- vi. The latest wiring diagram and as built drawings of the installed Elevator shall be maintained in the machine room and also one copy to be furnished to EIC for records.

3.2 PENALTY FOR CMC:

- i. 70% of the contract value pertains towards the cost of spare parts for the breakdown and maintenance of the Lift and the balance 30% is for the labour cost. Hence, if the minimum servicing of the lift once in a month is not carried out, 30% of the contract value for the respective month will be deducted from the bill towards the labour cost alone.
- ii. As per the terms of the contract, breakdown calls should be attended by the firm within 4 hours during the working days from 08.00 Hrs. to 18.00 Hrs. from the time of receipt of breakdown message from the Port.
- iii. Advance information of at least 24 hours shall be given by the firm before undertaking maintenance and servicing works periodically once in a month.

3.3 PENALTY FOR NON- AVAILABILITY OF ELEVATOR:

- i. The contractor shall guarantee 95% of the availability Factor of the Elevator. If the equipment availability factor is less than 95% per month, then the Contractor is liable for payment of Penalty at rates stated below. Based on the breakdown report the availability factor of the elevator shall be calculated each month.
- ii. However, in case of preventive maintenance /Major breakdown the Contractor shall request the Port for time to carry out the work.
- iii. The Contractor shall ensure availability of his authorized competent representative at Goa to receive emergency calls and take remedial actions. The representative should attend the call immediately to ensure the restoration of the services promptly.
- iv. For failure to achieve guarantee availability factor, Penalty of Rs.500/- per day shall be levied for the shortfall of the guaranteed availability (i.e.) 95% equipment availability of lift per month until the situation is restored.
- v. If the penalty is imposed on the contractor for consecutive 5 months during the CMC period the same shall be construed as default of the contractor in performing the obligations under the contract. This in turn will affect the performance rating of the contractor.

3.4 CERTIFICATE OF SAFETY:

Contractor shall periodically, examine safety devices and governor of the equipment and in addition shall conduct an annual no load safety test on the equipment.

The contractor shall submit a safety Certificate of the Elevator within 10days of the last day of the annual inspection of the Elevator.

3.5 RESPONSIBILITY OF ACCIDENT AND HAZARDS:

The contractor shall be responsible for any accident or hazard that take place during the maintenance period of 1 year free guarantee period and 5 years CAMC period. The Contractor shall also be responsible for payment of compensation and penalties payable to effected parties as a result of legal action.

Note:-

- i. The contractor should compulsorily inspect the site to acquaint themselves for the system to be designed and contractor should inspect the site and

obtain signature on the format provided in the tender (**Annexure-1**) from the Port's Representative after inspection at site which shall be part of the offer.

- ii. Necessary Barricade (Safety Guard) has to be provided, wherever required.
- iii. The contractor shall engage all the men/materials/tools/plants required for the work at the site till the completion of the work. The Port will not supply any of the same.
- iv. The Port will not be responsible for any loss or damage of the men/materials /tools/ plants engaged by the firm during the work at site or transportation.
- v. The firm will be responsible for any loss/damage to the Port's property during the work at site.
- vi. The tenderer shall arrange for safe storage of all materials, tools and equipments supplied and delivered at site from time to time, till the final handing over of the installation to the Port. Space for storage of contractor material will be provided by the Port.
- vii. The contractor shall engage their own transport facility for the disposal of the dismantled elevator to the MM Division/ Baina.

4. SPECIAL TERMS & CONDITIONS:

- 4.1. The supply items should have Test Certificates/warranty certificates and the same shall be submitted along with supply of materials.
- 4.2. All related Civil works shall be responsibility of the Contractor. The Contractor should take timely action to complete all civil works in all respects to the satisfaction of EIC.
- 4.3. The contractor must visit the Port area before quoting. At **Annexure- 1** is a site inspection form that has to be mandatorily submitted as proof of the Bidder having acquainted himself with the site conditions. The Bidder should quote the rate by taking into consideration all operational expenses.
- 4.4. The period of Comprehensive Maintenance contract for the installed elevator shall be 5 Years from the date of expiry of Guarantee period of one year from the date of successful commissioning of the system.

Note: As MQC Technical criteria Similar works means "Design, Manufacture, Supply, Installation, Testing and Commissioning of Elevator with steel belt traction media of not less than 6 passengers and height of not less than G+3 floors".

SITE INSPECTION – MANDATORY ATTENDANCE

From Bidder:

Name: _____

Address: _____

Name of the Tender: **REPLACEMENT OF 1 NO. 15 PASSENGER LIFT AT MPA HOSPITAL, INCLUDING 5 YEARS COMPREHENSIVE ANNUAL MAINTENANCE CONTRACT AFTER COMPLETION OF 1 YEAR FREE GUARANTEE PERIOD**

E-Tender No. **CME/XEN(E-HL)/H4/2024/01**

The undersigned hereby confirm that a representative of the above named Bidder attended the site inspection for the above tender, held on:

Name & Signature of the Bidder

It is understood that attendance at the site inspection is mandatory and that failure to submit this form, signed by both the Bidder’s representative and the Port’s representative with the bid, will cause the bid to be declared invalid and the bid will be rejected.

SIGNATURE OF BIDDER’S
NAME OF PERSON SIGNING BESIDE:
REPRESENTATIVE:

SIGNATURE OF
NAME OF PERSON SIGNING BESIDE:
PORT’S REPRESENTATIVE:

PRICE SCHEDULE (BILL OF QUANTITIES)

Name of Work: "REPLACEMENT OF 1 NO. 15 PASSENGER LIFT AT MPA HOSPITAL, INCLUDING 5 YEARS COMPREHENSIVE ANNUAL MAINTENANCE CONTRACT AFTER COMPLETION OF 1 YEAR FREE GUARANTEE PERIOD "

Sr. No	Description	HSN / SAC Code	Unit	Qty	Rate/Unit (Rs.)		Applicable GST (%)	Amount (Rs.)
					In Fig	In Words		
A	B	C	D	E	F	G	H	I=EXF
PART- A								
1.	Dismantling of existing Elevator and Shifting to MM Division		No	1				
2.	Design, Supply, Installation, Testing & Commissioning of new 15 passenger Elevator		No	1				
Total (PART-A)								
PART- B								
3.	Comprehensive Maintenance Contract (CMC) (after successful Completion of one year Guarantee period)							
a.	1 st Year CMC		No	1				
b.	2nd year CMC		No	1				
c.	3rd year CMC		No	1				
d.	4th year CMC		No	1				
e.	5th year CMC		No	1				
Total (PART-B)								
Total (PART- A + PART – B)								
Total (in figures)								

Note: 1. The offered rates shall be exclusive of all taxes and duties, GST shall be extra as applicable.

2. The total prices will be evaluated based on Overall price quoted i.e. Total price mentioned in the Price schedule = Part - A + Part - B